No. 8400032

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Bruce A. Bailey/BSJF Ag Research

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'PRN-82' 1

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 22nd *day of* February *in the year of our Lord one thousand nine hundred and* eighty-five.

Attest:

Kenneth A. [illegible]
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)
Bruce A. Bailey/BSF Ag Research

2. TEMPORARY DESIGNATION
PRN 82

3. VARIETY NAME
~~not yet designated~~ "PRN-82" RPS 1/14/85

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
Box 178, R.R.#6
Portland, Indiana 47371

5. PHONE *(Include area code)*
(219) 726-9388

FOR OFFICIAL USE ONLY

PVPO NUMBER
8400032

6. GENUS AND SPECIES NAME
Glycine Max L.

7. FAMILY NAME *(Botanical)*
Leguminosae

FILING
DATE 12/30/83
TIME 11:30 [X] A.M. [ ] P.M.

8. KIND NAME
Soybean

9. DATE OF DETERMINATION
7/13/82

FEES RECEIVED
AMOUNT FOR FILING
$ 1,000
DATE 12/30/83
AMOUNT FOR CERTIFICATE
$ 500.00
DATE 1/14/85

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
BSF Ag Research is a research division of Bailey Seed Farms, Inc. BSF Ag is funded through private donor

11. IF INCORPORATED, GIVE STATE OF INCORPORATION other than Bailey Seeds

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Bruce A. Bailey, BSF Ag Research
Box 178, RR #6
Portland, Indiana 47371

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. [X] Exhibit B, Novelty Statement

c. [X] Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. [ ] Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
[ ] Yes *(If "Yes," answer items 16 and 17 below)* [X] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[ ] Yes [ ] No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[ ] Foundation [ ] Registered [ ] Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
Bruce A. Bailey (Bruce A. Bailey)
DATE August 12, 1983

SIGNATURE OF APPLICANT
DATE

FORM LMGS-470 (9-81) (Edition of 1-78 is obsolete)

8400032

SOYBEANS

' PRN-82 ' R/S

(Temporary Designation)

EXHIBIT A:

PRN-82 was derived from a population of 15 million plants of Foundation Williams 82. The selection occurred with predictable regularity at 1:12 acres or 1:1,875,000 plants. A total of eight plants were discovered in July, 1982. Replication of the seed from the original eight selections is currently under replication and is still maintaining its orginal identity throughout all current replications.

PRN-82 appears to be an outcross or more probable an immediate sister to the variety William 82 due to the similarity of basic gene markers.

Additional Statement:

Exhibit A (variant)

RJS

It should be noted that PRN-82 has a cloudy black hilum while the variety Williams 82 has a clear black hilum. This may appear to be in conflict with item 6, Exhibit C. PRN-82 hilum, however, cannot be called imperfect black as it is more black than imperfect black. It is for this reason I call it a cloudy black. (See enclosed sample)

Additional Statement - Exhibit A

1. At the time of selection, all eight selections appeared to have identical gene markers and/or charactoristics.

2. In the first generation after selection, the seed from each plant was planted in single plant rows. In our nurseries, we had eight individual plant rows and between each plant row, the variety Williams 82 was planted for additional comparison.

3. Uniformity: Observations of the eight plant rows in all locations indicated that all charactoristics maintained themselves identically throughout and differences between the variety Williams 82 and PRN-82 are genetic and not environmental. At this time, PRN-82 is bulk because of the latter observations. Three generations have been observed; two in Portland, Indiana and one generation in Pharr, Texas (Winter Nursery, 1983). One generation (1983) was observed in Charleston, Illinois nursery.

4. It is possible that PRN-82 RPS could be a plant height mutation. However, because of consistent and notable differences in foliar pigmentation and other charactoristics noted throughout this application, I believe it to be remarkably different.

8400032

NOVELTY STATMENT

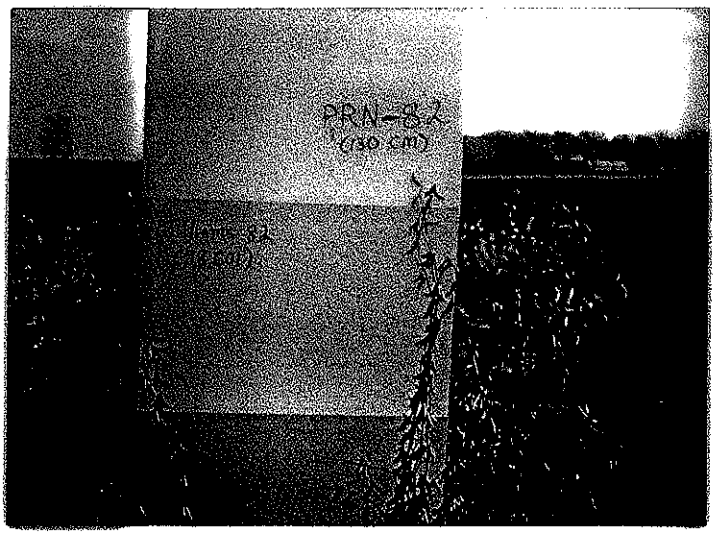
EXHIBIT B:

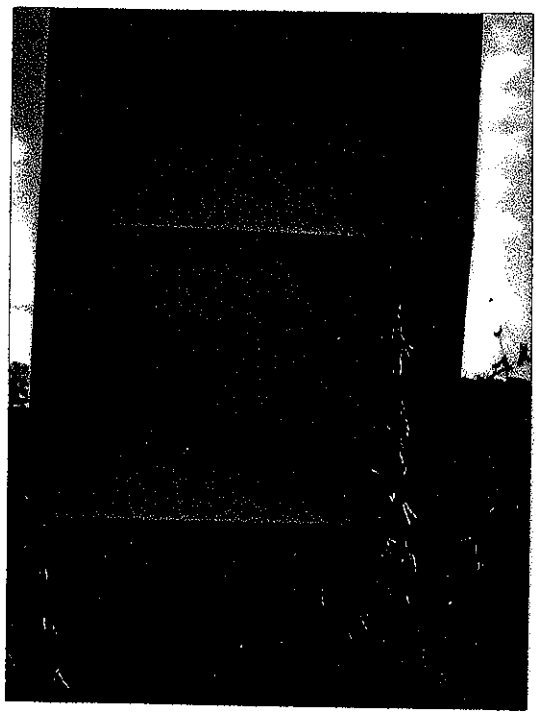
PRN-82 is most similar to Williams 82. *PRN-82 differs from Williams 82 in its overall height at 51 inches (approx. 130 cm) compared to Williams 82 at 39 inches (approx. 98 cm).

PRN-82 also differs from Williams 82 as the selection exhibits a lighter green foliage.

* See Exhibit B attachment.

EXHIBIT B Attachment





FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Bruce A. Bailey/BSF Ag Research	PRN 82	PRN-82 ~~Not yet designated~~ RJS

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
Box 178, R.R.#6
Portland, Indiana 47371

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PVPO NUMBER
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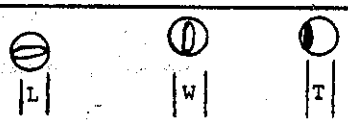
Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

[X] 2 RJS



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ **2. SEED COAT COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ **4. SEED SIZE: (Mature Seed)**

[1][8] Grams per 100 seeds

★ **5. HILUM COLOR: (Mature Seed)**

[6] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

★ **6. COTYLEDON COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green

★ **7. SEED PROTEIN PEROXIDASE ACTIVITY:**

[2] 1 = Low 2 = High

★ **8. SEED PROTEIN ELECTROPHORETIC BAND:**

[2] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

★ **9. HYPOCOTYL COLOR:**

[1] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ **10. LEAFLET SHAPE:**

[X] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____
3 RJS

8400032

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17')
3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton')
3 = Dark Green ('Gnome'; 'Tracy')

★ **13. FLOWER COLOR:**

[1] 1 = White 2 = Purple 3 = White with purple throat

★ **14. POD COLOR:**

[1] 1 = Tan 2 = Brown 3 = Black

★ **15. PLANT PUBESCENCE COLOR:**

[2] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[2] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton')
3 = Bushy ('Gnome'; 'Govan')

★ **17. PLANT HABIT:**

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ **18. MATURITY GROUP:**

[0][6] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V
9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ **19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)**

BACTERIAL DISEASES:

★ [0] Bacterial Pustule *(Xanthomonas phaseoli* var. *sojensis)*

★ [0] Bacterial Blight *(Pseudomonas glycinea)*

★ [0] Wildfire *(Pseudomonas tabaci)*

FUNGAL DISEASES:

★ [0] Brown Spot *(Septoria glycines)*

Frogeye Leaf Spot *(Cercospora sojina)*

★ [0] Race 1 [ ] Race 2 [ ] Race 3 [ ] Race 4 [ ] Race 5 [ ] Other *(Specify)* _____

[0] Target Spot *(Corynespora cassiicola)*

[0] Downy Mildew *(Peronospora trifoliorum* var. *manshurica)*

[0] Powdery Mildew *(Microsphaera diffusa)*

★ [0] Brown Stem Rot *(Cephalosporium gregatum)*

[0] Stem Canker *(Diaporthe phaseolorum* var. *caulivora)*

8

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

10

★ [0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

★ [2] Race 1 [2] Race 2 [2] Race 3 [2] Race 4 [2] Race 5 [2] Race 6 [2] Race 7

[2] Race 8 [2] Race 9 [2] Other *(Specify)* 1 Through 20 Indiana Crop Lab Test Purdue Inoculum

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

★ [0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

★ [0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

★ [0] Race 1 [ ] Race 2 [ ] Race 3 [ ] Race 4 [ ] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

★ [0] Southern Root Knot Nematode *(Meloidogyne incognita)*

★ [0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[0] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[0] OTHER DISEASE NOT ON FORM *(Specify)*: _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ [0] Iron Chlorosis on Calcareous Soil

[2] Other *(Specify)* double rate triazine levels

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[0] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Union	Seed Coat Luster	Williams 82
Leaf Shape	Williams 82	Seed Size	Williams 82
Leaf Color	Cumberland	Seed Shape	Williams 82
Leaf Size	Williams 82	Seedling Pigmentation	Williams 82

9

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	Williams 1 day	1.5*	130	Not observed		~~29.83~~ Not tested	29.83	18 grams	88% - 3/pod 7% - 4/pod 5% - 2/pod
Name of Similar Variety	Williams 82	1*	98	Not observed		Not tested ~~18.83~~	18.83	18 grams	90% - 3/pod 6% - 4/pod 4% - 2/pod

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

* 1 = All plants erect

2 = All plants leaning slightly

3 = 20-50% plants down

4 = 50-80% plants down

5 = 80% or more plants down

8400032

BAILEY SEED FARMS, INC.

HYBRID SEED CORN ● SMALL GRAINS

Exhibit d

Additional Statement

In three replications (1983) PRN-82 RJS has outyielded its nearest most probable relative, Williams 82, by 1.85 bushels per acre.

A less obvious charactoristic than the striking difference in overall height between PRN-82 and Williams 82 is that PRN 82 exhibits a more slender plant type.

PRN-82 has maintained an 11% higher oil content than the comparative variety Williams 82.

Exhibit d attachment: Lab test for oil content.

R. R. 6 — Box 178, PORTLAND, INDIANA 47371 ● Phone (219) 726-9388

— Member Indiana Crop Improvement Assn. —

— Member Western Seedsmen Assn. —

8400032

Burgess & Niple, Limited

Engineers and Architects

5085 Reed Road • Columbus, OH 43220 2581 • (614) 459-2050

November 22, 1983

Mr. Bruce A. Bailey
Bailey Seed Farms, Inc.
R.R. 6, Box 178
Portland, IN 47371

Dear Mr. Bailey:

On October 28 our laboratory received from you two packets of soybean seeds for analysis. The findings of these analyses are as follows:

Oil Content	Williams 82	18.83%
	PRN-82 ~ RFS	29.83%
Protein Peroxidase	Williams 82	Ep (High)
	PRN-82	Ep (High)
Electrophoretic Band	Williams 82	$Sp_1(b)$
	PRN-82	$Sp_1(b)$

If we can be of further service to you at any time or if you have any questions, please do not hesitate to call.

Sincerely,

James F. Phillips

James F. Phillips
Chief Chemist

JFP:ab

12